

Date: Mon, 17 Jan 94 05:01:14 PST
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V94 #46
To: Info-Hams

Info-Hams Digest Mon, 17 Jan 94 Volume 94 : Issue 46

Today's Topics:

73: Solar battery charger article request
 Advice for first rig(s)
 Anyone know of a callsign server?
FM broadcast (Technical aspects) (2 msgs)
 Ham Radio Stores Near NITRO, Virginia
 MFJ-1214 multimode. Help!
 Programs
 Ramsey FX Transceivers
 Short 160m Dipole
 swapfest
 Very Small Receivers
WANTED: CALL SIGN SERVER IN INTERNET

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 15 Jan 1994 21:10:01 GMT
From: ucsnews!sol.ctr.columbia.edu!news.kei.com!bloom-beacon.mit.edu!senator-
bedfellow.mit.edu!kame.media.mit.edu!jchang@network.ucsd.edu
Subject: 73: Solar battery charger article request
To: info-hams@ucsd.edu

I am looking for the November issue of 73, which on page 26 has an
article on building a solar charge controller. I've looked for the
issue in the libraries in Boston, but none subscribes to 73. If you
could mail me a copy of the article, or, if you're local, lend me the
issue, I would be most appreciative.

With all the battery powered toys I've acquired -- subnotebook computer, cellular phone, and maybe soon a scanner and miniature tape recorder -- I could use a low-powered (~10 watt) charger to keep them going. As I understand it, the article describes the construction of a controller for a solar powered battery charger that fits my needs.

Does anyone know where to get solar panels inexpensively? Real Goods (800-762-7325) sells a 10-watt Solarex panel for \$149 + shipping, which seems high to me.

--

John Chang
+1-617-365-2866

jchang@kame.media.mit.edu
When you have the advantage, get the money out.

Date: Sat, 15 Jan 1994 15:46:30 GMT
From: ucsnews!sol.ctr.columbia.edu!howland.reston.ans.net!gatech!wa4mei.ping.com!
ke4zv!gary@network.ucsd.edu
Subject: Advice for first rig(s)
To: info-hams@ucsd.edu

In article <CJMr78.4Go@hpmqmoa.sqf.hp.com> dstock@hpmqmoa.sqf.hp.com (David Stockton) writes:

>

> My answers have been a bit long-winded, and maybe a little
> opinionated, but I hope I've covered all your questions. These are just
> personal opinions, formed by acting as the local rig-fixer for a number
> of years, I hope they help a little.

I was about to post a reply that echoed yours almost word for word David. You gave sound advice.

Gary

--

Gary Coffman KE4ZV
Destructive Testing Systems
534 Shannon Way
Lawrenceville, GA 30244

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| gatech!wa4mei!ke4zv!gary
| uunet!rsiatl!ke4zv!gary
| emory!kd4nc!ke4zv!gary

Date: 17 Jan 94 10:57:44 GMT
From: news.sprintlink.net!crash!apollyon@uunet.uu.net
Subject: Anyone know of a callsign server?
To: info-hams@ucsd.edu

Try the following:

telnet callsign.cs.buffalo.edu port 2000

As for how to login, I'm really not sure. Hope this helps.

Apollyon

Date: Sat, 15 Jan 1994 12:35:03 GMT
From: ucsnews!sol.ctr.columbia.edu!math.ohio-state.edu!magnus.acs.ohio-state.edu!
usenet.ins.cwru.edu!nigel.msen.com!yale.edu!newsserver.jvnc.net!
raffles.technet.sg!ntuix!ntuvax.ntu.ac.sg!asirene
Subject: FM broadcast (Technical aspects)
To: info-hams@ucsd.edu

chris andersen (akcs.marz@vpnet.chi.il.us) wrote:
: Is it possible for a person with ham or modified ham set up to broadcast
: on the 88-108 Mhz area???

Funny how a technical question gets so many legal answers. The answer to chris's question is of course, a yes. Any 2 meter which broadcasts in the 144 to 146 mHz FM should be convertable to broadcast FM work. There are a few catches though, that these HAM FM units normally use NBFM while broadcast FM is usually WFM. This can be actually alleviated somewhat if the NBFM modulator in the TX section allows the deviation to be increased. Then there is also the output filter section which needs to be modified to accomodate the new output frequency range which normally means having to add a few more coils to the output PI filter sections.

The we get to the actual frequency change part. The changing of the frequency actually depends on what kind of frequency generation system is being used in the XCVR. If its a fixed crystal unit such as many older rigs, then its simply a matter of obtaining the right crystal. I suspect what Chris has in mind is actually the PLL synthesized handhelds which are more common nowadays. This may be a bit more complicated because the PLL frequency is often determined by a programmable divider which is under the control of the on-board micro-computer. To actually change the PLL section will be quite difficult but if you really want to be adventurous, you will need to reprogram the EPROM or microcontroller, or insert your own divider into the PLL circuitry. Another way of achieving this is to change the crystal reference source which is much easier but I am not too sure how feasible this is in practice because the crystal may be used for other things. The plus side of this is that if, and it is likely that, the RX section also derives its mixer reference from the crystal, then you can then receive the lower band as well. Unfortunately, in performing these mods, you lose your transmission ability on 2m.

There is a third way about this which is to get a 2m rig with a mod for covering the broadcast FM section (whether RX only or TX/RX mod). Usually if such a receiver can receive on the band, it can in theory broadcast on it too with some performance degradation however. I have seen some such mods around. In case it only receives on the broadcast FM range but does not TX, then just hunt around for the point to enable the TX logic section and bypass the computer control for that XCVR and you are home free. Bear in mind that it will still be NBFM unless some other mods are performed.

Another way of getting onto FM which should be possible is to get one of the mode stable (and powerful) FM mic units and couple it to a decent power amplifier. This should not be too hard as such an amplifier is relatively simple to construct but the coupling may be tricky because most of these FM mics do not have 50 ohm termination and its low output power may require another driver stage. I suspect there may be no need for toroids even given the high frequency and a 2N3866 should do nicely for a driver section and maybe something else for the power section to bring the output from 50-100 mW to maybe 1-2 watt which should be enough fun for a few kilometers around the broadcast site. I would not go more than that (to 20-30 watts because then you're going to draw the FCC like flies to shit!

Meanwhile if anyone can cough up such an amplifier circuit for boosting the FM mics 15-100 mW output to something like 1-2 watts without too many ferrite inductors, please mail it to me or post it here just so we know how complicated such a circuit would be (or how easy). Also remember not to respond to this with legal responses, just technical would be fine. Oh! and no flames please. Have fun.

9VG

Date: 15 Jan 1994 14:51:26 GMT
From: korie!newscast.West.Sun.COM!abyss.West.Sun.COM!sunspot!myers@ames.arpa
Subject: FM broadcast (Technical aspects)
To: info-hams@ucsd.edu

In article <1994Jan15.203503.1@ntuvax.ntu.ac.sg> asirene@ntuvax.ntu.ac.sg writes:
>chris andersen (akcs.marz@vpnet.chi.il.us) wrote:

>: Is it possible for a person with ham or modified ham set up to broadcast
>: on the 88-108 Mhz area???

>

> Funny how a technical question gets so many legal answers....

[...]

> Meanwhile if anyone can cough up such an amplifier circuit for boosting

>the FM mics 15-100 mW output to something like 1-2 watts without too many
>ferrite inductors, please mail it to me or post it here just so we know how
>complicated such a circuit would be (or how easy). Also remember not to respond
>to this with legal responses, just technical would be fine. Oh! and no flames
>please. Have fun.

This isn't a flame. If you want to discuss pirate FM transmitters, why
don't you go to the newsgroup where people **want** to discuss such things.
The correct newsgroup is "alt.radio.pirate". There may be a way to get
it in digest form. Posting two pages on how to make a pirate FM
transmitter to rec.radio.amateur.misc is begging for flames regardless
of what you think.

--

* Dana H. Myers KK6JQ, DoD 466 | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *
* This Extra supports the abolition of the 13 and 20 WPM tests *

Date: 17 Jan 94 09:42:38 GMT
From: news-mail-gateway@ucsd.edu
Subject: Ham Radio Stores Near NITRO, Virginia
To: info-hams@ucsd.edu

Hi,

Can any one recommend any stores near the above town. A friend is going
there to do some work and wants to look at used HF gear. Dave. G4UGM
<Replies by EMAIL please as I don't subscribe to this list>

Date: Sat, 15 Jan 1994 13:11:07 GMT
From: ucsnews!sol.ctr.columbia.edu!howland.reston.ans.net!newsserver.jvnc.net!
raffles.technet.sg!ntuix!ntuvax.ntu.ac.sg!asirene@network.ucsd.edu
Subject: MFJ-1214 multimode. Help!
To: info-hams@ucsd.edu

Hi,

Is there anyone out there with the MFJ-1214 multi-mode computer
interface who can provide me some information on this piece. Also if
anyone knows the programming details or circuit diagram for this unit, I
would appreciate a copy.

Tks, 73 de 9VG Daniel

Date: Sat, 15 Jan 94 23:49:18 GMT
From: munnari.oz.au!comp.vuw.ac.nz!gcs.co.nz!amigans!doc@network.ucsd.edu
Subject: Programs
To: info-hams@ucsd.edu

Radio Programs for Amiga..

Could anyone help me as Im interested in working a Packet Station
but can not find a TNC Program, Im running a Amiga A600.
I would be very much appreciated if anyone could help,
Also Im interested in any other programs to do with ham radio.
Email to Doc@amigans.gen.nz
Thanks in advance De ZL1MY...

Date: 17 Jan 94 02:26:17 GMT
From: world!howi@uunet.uu.net
Subject: Ramsey FX Transceivers
To: info-hams@ucsd.edu

rich@mulvey.com writes:

>..... Personally, I got an astounding deal with
>the Norcal 40 QRP xcvr kit that I assembled a few months ago. High
>performance, easy assembly, looks great on a spectrum analyzer, and good
>support from the distributor. And it cost me exactly \$5.00 more than
>I would have paid for the crappy Ramsey transmitter/receiver pair.

In fairness, you can't compare the prices of Ramsey and Norcal. One's a
business and the other's a non-profit club with volunteer labor.

howie, wb2cpu

Date: 17 Jan 94 03:40:01 GMT
From: news-mail-gateway@ucsd.edu
Subject: Short 160m Dipole
To: info-hams@ucsd.edu

Text item: Text_1

>What I would like to do is get up a 160m dipole, SHORTENED to the length
>of, say, an 80m dipole so that I could leave it up permanantly.

>Tnx, GD DX and 73's...Peter, G4BVH.

Hi Peter, I've found from my half-vast experience that the shortest reasonable center-fed dipole is about $3/8$ wavelength. "Reasonable" means a length that won't cause your antenna tuner to object. Here's a rule of thumb based on the above. The minimum length of the antenna in feet is close to the wavelength in meters, i.e. for a minimum size 160m dipole, 160 ft. is close. The antenna impedance is lowR-jhighX but not outside the matching range of most antenna tuners... my 2 cents worth.

73, Cecil, kg7bk@indirect.com (I do not speak for Intel)

Date: 17 Jan 1994 01:57:16 -0500
From: newshub.nosc.mil!crash!news.sprintlink.net!clark.net!clark.net!not-for-mail@network.ucsd.edu
Subject: swapfest
To: info-hams@ucsd.edu

The Maryland Mobileers Amateur Radio Club, Inc. (MMARC) will be holding a "POST HOLIDAY SWAPFEST" on Sunday, January 30, 1994 at the Odenton Fire Department Hall located at 1425 Annapolis Road, (RT-175), Odenton, MD.

At 10:00 A.M., a Laurel V.E. Testing Session will be held by Jerry Gavin, NU3D. For information about the testing program and to pre-register, please call Jerry at (410) 761-1423 (anytime).

At 12:30 P.M., a presentation on packet radio will be given by Joe Kasser, G3ZCZ, author of several PC Software programs including "LAN-LINK", a packet terminal program which works with some of the most popular TNCs, and "WHATS-UP", a tool for experimenting with orbital dynamics, telemetry decoding, and display program for popular amateur spacecraft.

At 1:15 P.M., an interesting presentation and demonstration will be given by Bob Bruninga, WB4APR on his shareware software, Automatic Packet Reporting System (APRS). He uses his system to track the U.S. Naval Academy vessels as they move around the Chesapeake Bay and beyond, and has for the past several years tracked the running of the Navy Football on its way to the Army vs Navy football game. APRS utilizes the governments Global Positioning System and packet radio to bring real time tracking to the amateur radio hobbyist.

TALK-IN: WA3PJQ -- 146.205 input/146.805 output

Club tables, as well as individual tables, are available. For

SWAPFEST information, or to make your table reservation, please call Tom Wilkison, KA30MU at (410) 969-2639 (evenings).

73 de Bill/WA3SCW @ WB3V

ARRL MDC Bulletin Manager

Inquiries to me at my email address.
robocop@clark.net

73, Matt Roberts n3gzm

Date: 15 Jan 94 21:15:03 GMT
From: ucsnews!sol.ctr.columbia.edu!howland.reston.ans.net!newsserver.jvnc.net!
igor.rutgers.edu!athos.rutgers.edu!imielins@network.ucsd.edu
Subject: Very Small Receivers
To: info-hams@ucsd.edu

I am interested in very small receivers (may be even the size of a coin) which could be remotely controlled over RF inside a room (so very low power of transmission). The receiver, upon receiving a binary code (id) would cause some simple reponse (light on, sound). Should be powered by very small batteries (like watch batteries).

Any idea what are the smallest available receivers and what is the main obstacle in making them very small (i.e. why not have them on the chip). So far the smallest I have heard about is about 4 x 1.5 inch (this is info from a Spy Store). This is way too big - I want to get one of the size of a penny...

Any pointers greatly appreciated

Thanks

Tomasz Imielinski

imielins@cs.rutgers.edu

Date: 17 Jan 94 10:53:41 GMT
From: news.sprintlink.net!crash!apollyon@uunet.uu.net
Subject: WANTED: CALL SIGN SERVER IN INTERNET
To: info-hams@ucsd.edu

There is an online National Radio Call Sign Index

.
telnet callsign.cs.buffalo.edu port 2000

Date: 15 Jan 1994 15:31:44 -0800

From: nntp.crl.com!crl2.crl.com!not-for-mail@decwrl.dec.com

To: info-hams@ucsd.edu

References <1994Jan14.005918.1@auvax1.adelphi.edu>, <2h7a43\$89b@crl2.crl.com>,
<1994Jan15.161325.16129@ke4zv.atl.ga.us>

Subject : Re: why 29.94 fps?

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:

: In article <2h7a43\$89b@crl2.crl.com> lreeves@crl.com (Les Reeves) writes:

: >

: >Are these frame synchronizers located in the signal path such that
: >they are always inline? Assuming the answer is yes, this means that
: >*everything* passes through them. What type of video codecs do these
: >devices employ? Are their effects visible enough so that we vidiots
: >with our 32" monitors would be able to see their nasty artifact trails?

: >

: >In other words, what sort of digitization of video is going on in these
: >frame synch boxes? As good as D2? Almost D1?

: Yes there are frame syncs inline all the time. Sometimes there are
: multiple frame syncs in the chain. You can sometimes notice that
: lip sync is slightly off because of the multiple field delays through
: the frame syncs. The typical frame sync samples composite video with
: 8 bit samples at 4X subcarrier. There are visible artifacts in some
: pictures. D2 is no better. In fact it's usually worse because of the
: error masking it uses to make up for tape dropouts. FEC fixes a lot of
: them, but not all. D1 is considerably better because it stores component
: video streams on separate tracks, but it is confined almost exclusively
: to post rooms and the end product is transfered to composite format for
: intermediate storage and playback. Then the whole picture is crammed
: through a 10 year old transmitter with aging tubes. All your 32 inch
: monitor does is give you a *bigger* look at all the various transmission
: errors. NTSC looks best, by design, on a 19 inch screen that doesn't have
: too much resolution.

^^

- Amen! -

It looks even better, perhaps best, on a properly set-up 13 inch

broadcast monitor.

I wish the folks creating the letter-box movies with the 20:5 aspect ratio had a better understanding of what NTSC is and is not.

I see these things and think my deflection circuitry has crapped out!

Date: Sat, 15 Jan 1994 16:13:25 GMT
From: ucsnews!sol.ctr.columbia.edu!howland.reston.ans.net!gatech!wa4mei.ping.com!
ke4zv!gary@network.ucsd.edu
To: info-hams@ucsd.edu

References <199401122319360SYSMAS@MVS.OAC.UCLA.EDU>,
<1994Jan14.005918.1@auvax1.adelphi.edu>, <2h7a43\$89b@crl2.crl.com>
Reply-To : gary@ke4zv.atl.ga.us (Gary Coffman)
Subject : Re: why 29.94 fps?

In article <2h7a43\$89b@crl2.crl.com> lreeves@crl.com (Les Reeves) writes:

>
>Are these frame synchronizers located in the signal path such that
>they are always inline? Assuming the answer is yes, this means that
>*everything* passes through them. What type of video codecs do these
>devices employ? Are their effects visible enough so that we vidiots
>with our 32" monitors would be able to see their nasty artifact trails?
>
>In other words, what sort of digitization of video is going on in these
>frame synch boxes? As good as D2? Almost D1?

Yes there are frame syncs inline all the time. Sometimes there are multiple frame syncs in the chain. You can sometimes notice that lip sync is slightly off because of the multiple field delays through the frame syncs. The typical frame sync samples composite video with 8 bit samples at 4X subcarrier. There are visible artifacts in some pictures. D2 is no better. In fact it's usually worse because of the error masking it uses to make up for tape dropouts. FEC fixes a lot of them, but not all. D1 is considerably better because it stores component video streams on separate tracks, but it is confined almost exclusively to post rooms and the end product is transferred to composite format for intermediate storage and playback. Then the whole picture is crammed through a 10 year old transmitter with aging tubes. All your 32 inch monitor does is give you a *bigger* look at all the various transmission errors. NTSC looks best, by design, on a 19 inch screen that doesn't have too much resolution.

Gary

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| | | | | |
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| 534 Shannon Way | | Guaranteed! | | emory!kd4nc!ke4zv!gary |
| Lawrenceville, GA 30244 | | | | |

Date: Sat, 15 Jan 1994 17:22:55 GMT

From: ucsnews!sol.ctr.columbia.edu!howland.reston.ans.net!gatech!wa4mei.ping.com!
ke4zv!gary@network.ucsd.edu

To: info-hams@ucsd.edu

References <2guq97\$mids@inxs.concert.net>,
<1994Jan12.162136.17158@mnemosyne.cs.du.edu>, <2h6lmf\$qk4@inxs.concert.net>
Reply-To : gary@ke4zv.UUCP (Gary Coffman)
Subject : Re: Repeater database?

In article <2h6lmf\$qk4@inxs.concert.net> mikewood@rock.concert.net (W. M Wood --
The Signal Group) writes:

>In article <1994Jan12.162136.17158@mnemosyne.cs.du.edu>,

>Jay Maynard <jmaynard@nyx10.cs.du.edu> wrote:

>>

>>> I suspect less than 1% of the so called coordinated
>>>repeaters in operation today have any sort of REAL engineering
>>>study including contour maps done on them. Most have been 'coordinated
>>>' by either first come first served ---- or Good Ole Boys Network
>>>methods.

>>

>>First come first served is the only way that coordinators can operate and not
>>get their collective butts sued off. Don't believe me? I've been there,
>>again, and so have others. As for the kind of real engineering studies you
>>advocate, do you know how much time and effort goes into producing a contour
>>map? Multiply that by a thousand repeaters in Texas. It's prohibitive. We
>>coordinate repeaters based on 85-mile separation, and will waive that if the
>>trustee of the existing system will agree in writing.

>>

>

>I do contour studies professionally as a communications system engineer..so
>yes I DO KNOW what is involved in doing a proper study. I also
>know that a decent one can be done in an hour or so with out
>a computer..just radial lines in a topo map. If you are just
>drawing 85 mile radius circles on a map you aren't really
>coordinating ...you are just OFFICIATING. If a job is worth
>doing it should be done right.

If you call radials on a topo map a proper study, remind me never to hire you for a real coverage study. At one time the FCC would accept such "studies" on construction permit filings, but their idea of close spacing is a lot more than the 85 miles the Texas group allows. There are computer programs using digitized terrain maps that do a fair job, but they don't find all the holes, or spikes, in real patterns. That takes actually going out into the field and doing the measurements.

Lat, Lon, HAAT, and ERP don't begin to tell the whole story for *repeater* coverage. The beam tilt of the antenna is critical and the receiver sensitivity is also important. Those are installation dependent. And exact terrain shapes in the main beam also play a critical role in determining shadowing and diffraction zones. You can't determine real coverage sitting at a desk.

Gary

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|-----------------------------|--|--------------|--|--------------------------|
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| Lawrenceville, GA 30244 | | | | |

End of Info-Hams Digest V94 #46

